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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 63126A	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/US2004/010572	International filing date (day/month/year) 07.04.2004	Priority date (day/month/year) 12.05.2003
International Patent Classification (IPC) or national classification and IPC C08F10/00		
Applicant UNION CARBIDE CHEMICALS & PLASTICS TECHN. ..et al.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the International application</p>		
Date of submission of the demand 30.11.2004	Date of completion of this report 16.08.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Parry, J Telephone No. +31 70 340-	



**INTERNATIONAL PRELIMINARY REPORT
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International application No.
PCT/US2004/010572

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-23 as originally filed

Claims, Numbers

1-11 as originally filed

Drawings, Sheets

1 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-11
Inventive step (IS)	Yes: Claims	
	No: Claims	1-11
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The following documents (D1-D4) will be referred to (see the ISR for the relevant passages):

- D1: EP-A-0 783 007 (UNION CARBIDE CHEMICALS & PLASTICS TECHNOLOGY CORPORATION) 9 July 1997 (1997-07-09)
- D2: WO 01/05845 A (UNION CARBIDE CHEMICALS & PLASTICS TECHNOLOGY CORPORATION) 25 January 2001 (2001-01-25)
- D3: US-A-5 290 745 (JORGENSEN ET AL) 1 March 1994 (1994-03-01)
- D4: US-B1-6 187 866 (JORGENSEN ROBERT JAMES ET AL) 13 February 2001 (2001-02-13)

D1-D4 essentially describe processes which are identical to those of the present examples (see Box VIII), hence claims 1-11 are not novel.

Re Item VII

Certain defects in the international application

1. The present examples do not appear to carry out stage 6 as described in the present independent claims.
2. P. 21, I.12: The actual amount of activator used should have been mentioned

Re Item VIII

Certain observations on the international application

I. The following objections are made under Art. 6 (PCT):

1. Claims 1 and 2 (i) stage 5: the term "partially" is unclear as it has not been defined with respect to a point of reference.

(ii) stage 6: there is not one single worked example that explicitly mentions this step. Furthermore claim 10 reiterates it but claim 9 does not. It is thus not clear if the intention was to add the preactivated catalyst to a reactor comprising another polymerisation system already undergoing polymerisation or, as described in the present examples, to simply to add the preactivated catalyst to a reactor comprising

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(SEPARATE SHEET)**

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monomer and cocatalyst in order to effect polymerisation.

2. Claim 6: the term "sequential mixture" is unclear and in any case describes a process of preparation of an activator. It cannot be ascertained that the activator was prepared beforehand in this way. Thus process steps as described on p. 13, I.23 onwards should have been explicitly mentioned in this claim instead.

3. Claim 7 describes a "result to be achieved" (PCT GL Ch.-III,4.7).

The subject matter related to the above-mentioned objections 1-3 will be ignored with respect to the considerations under Box V, since being unclear, it cannot be considered limiting for the scope of the claims.

II: The following objections are made under Art. 5 (PCT):

1. Claims 1 and 2 (i) stage 6: there is not one single worked example that explicitly mentions this step. As such this step is insufficiently disclosed.